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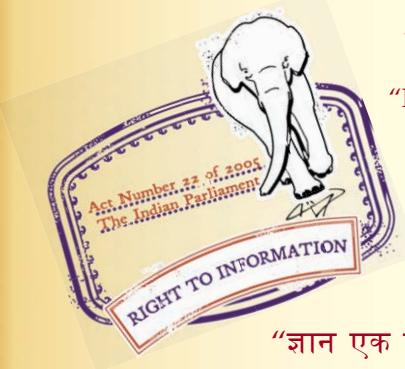
“Step Out From the Old to the New”

IS 3347-5-1 (1979): Dimensions for Porcelain Transformer Bushings for Use in Lightly Polluted Atmospheres - Part V : 36 KV Bushings, Section 1: Porcelain Parts [ETD 6: Electrical Insulators and Accessories]

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“Knowledge is such a treasure which cannot be stolen”





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IS : 3347 ( Part V/Sec 1 ) - 1979

( Reaffirmed 1999 )

*Indian Standard*

DIMENSION FOR PORCELAIN  
TRANSFORMER BUSHINGS FOR  
USE IN NORMAL AND LIGHTLY  
POLLUTED ATMOSPHERES

**PART V 36 kV BUSHINGS**

**Section 1 Porcelain Parts**

*( Second Revision )*

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**BUREAU OF INDIAN STANDARDS**  
MANAK BHAVAN, 9 BAHADUR SHAH ZAFAR MARG

NEW DELHI 110002

Gr 2

June 1980

## *Indian Standard*

### DIMENSIONS FOR PORCELAIN TRANSFORMER BUSHINGS FOR USE IN NORMAL AND LIGHTLY POLLUTED ATMOSPHERES

#### PART V 36 kV BUSHINGS Section 1 Porcelain Parts

#### ( Second Revision )

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AMENDMENT NO. 1 FEBRUARY 1989  
TO  
IS : 3347 ( Part 5/Sec 1 ) - 1979 DIMENSIONS FOR  
PORCELAIN TRANSFORMER BUSHINGS FOR  
USE IN NORMAL AND LIGHTLY POLLUTED  
ATMOSPHERES

**PART 5 36 kV BUSHINGS**

**Section 1 Porcelain Parts**

*( Second Revision )*

*( First cover, pages 1 and 3, title ) — Substitute the following for the existing title:*

*‘Indian Standard*

**DIMENSIONS FOR PORCELAIN TRANSFORMER  
BUSHINGS FOR USE IN LIGHTLY POLLUTED  
ATMOSPHERES**

**PART 5 36 kV BUSHINGS**

**Section 1 Porcelain Parts**

*( Second Revision )*

*( Page 3, clause 0.2, second line ) }  
( Page 5, clause 1.1, third line ) } — Delete the words ‘normal and’.*

**( ETDC 3 )**

## *Indian Standard*

# DIMENSIONS FOR PORCELA IN TRANSFORMER BUSHINGS FOR USE IN NORMAL AND LIGHTLY POLLUTED ATMOSPHERES

## PART V 36 kV BUSHINGS Section 1 Porcelain Parts

( *Second Revision* )

### 0. F O R E W O R D

**0.1** This Indian Standard ( Part V/Sec 1 ) ( Second Revision ) was adopted by the Indian Standards Institution on 21 September 1979, after the draft finalized by the Electrical Insulators and Accessories Sectional Committee had been approved by the Electrotechnical Division Council.

**0.2** This part ( Part V ) of the standard covers dimensions of porcelain transformer bushings for use in normal and lightly polluted atmospheres of 36 kV with the object of ensuring their interchangeability. To avoid multiplicity of sizes, the dimensions given are only for those ratings ( voltage and current ) which are being used appreciably. This part comprises two sections issued as two separate standards. While this section ( Sec 1 ) covers the porcelain parts of the bushings, the dimensions of the metal parts to go with these porcelain parts are specified in the other section of IS : 3347 ( Part V/Sec 2 ) - 1979\*.

**0.3** This standard ( Part V/Sec 1 ) was first issued in 1965. The first revision was taken up in 1973 with a view to simplify the manufacture of the porcelain parts on large scale by permitting an alternative shape of their top petticoat in respect of all the ratings covered in this standard. This second revision has been undertaken to include dimensions of 2 000 A, and 3 150 A bushings.

**0.4** The dimensions given in this standard have been arrived at after full consideration of the available sizes and an examination of the relevant merits of different types of bushings. Detailed dimensions have been given with a view to achieving maximum economy in the manufacture of the bushings.

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\*Dimensions for porcelain transformer bushings for use in normal and lightly polluted atmospheres : Part V 36 kV bushings, Section 2 Metal parts.

**0.5** The bushings are rated in terms of the highest system voltage ( *see IS : 2099-1973\** ). While this part ( Part V ) covers 36 kV bushings, the dimensions of the bushings for other voltages are given in the following parts of this standard:

**Part I** Up to and including 1 kV bushings

Section 1 Porcelain parts

Section 2 Metal parts

**Part II** 3·6 kV bushings

Section 1 Porcelain parts

Section 2 Metal parts

**Part III** 12 and 17·5 kV bushings

Section 1 Porcelain parts

Section 2 Metal parts

**Part IV** 24 kV bushings

Section 1 Porcelain parts

Section 2 Metal parts

**Part VI** 72·5 kV bushings

Section 1 Porcelain parts

Section 2 Metal parts ( *under preparation* )

**Part VII** 123 kV bushings

Section 1 Porcelain parts

Section 2 Metal parts ( *under preparation* )

**0.6** The dimensions for porcelain transformer bushings for use in heavily polluted atmospheres are covered by the series of IS : 8603-1977†.

**0.7** For 36 kV, bushings having restricted neck have been recommended.

**0.8** The dimensions covered in this standard essentially apply to the bushings used outdoor with inner ends immersed in oil and suitable for use in normal and lightly polluted atmospheres.

**0.9** The performance requirements of the bushings covered by this standard are given in IS : 2099-1973\*.

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\*Specification for bushings for alternating voltages above 1 000 volts (*first revision*).

†Dimensions for porcelain transformer bushings for use in heavily polluted atmospheres.

**0.10** In the preparation of this standard, assistance has been derived from the following standards issued by the Deutscher Normenausschuss:

DIN 42531 ( 1968 ) Transformatoren; Durchfuehrungen fur Innerraum und Freiluft, Reihen 10 N bis 30 N, 250 A ( Indoor and outdoor transformer bushings : Insulation class 10 N to 30 N, 250 A ).

DIN 42532 ( 1969 ) Transformatoren; Durchfuehrungen fur Innerraum und Freiluft, Reihen 10 N bis 30 N, 630 A ( Indoor and outdoor transformer bushings : Insulation class 10 N to 30 N, 630 A ).

DIN 42533 ( 1969 ) Transformatoren; Durchfuehrungen fur Innerraum und Freiluft, Reihen 10 N bis 30 N, 1 000 bis 3 150 A ( Indoor and outdoor transformer bushings : Insulation class 10 N to 30 N, 1 000 to 3 150 A ).

**0.11** For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated, expressing the result of a test, shall be rounded off in accordance with IS : 2-1960\*. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

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## 1. SCOPE

**1.1** This standard ( Part V/Sec 1 ) lays down the dimensions of the porcelain parts of the bushings of 36 kV used with transformers for use in normal and lightly polluted atmospheres.

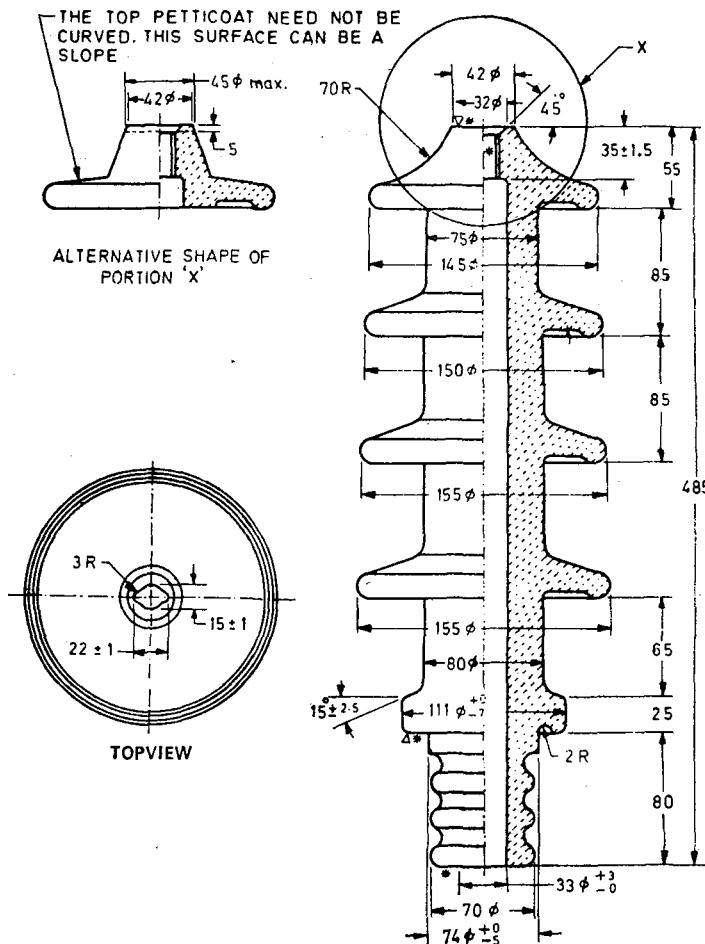
## 2. DIMENSIONS

**2.1** The dimensions of the porcelain parts for different ratings ( kV/A ) of the bushings are given in Fig. 1, 2 and 3.

**2.2** Unless specified otherwise, tolerance on a dimension shall be  $\pm ( 0.03 d + 0.3 )$  mm,  $d$  being the dimension in millimetres.

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\*Rules for rounding off numerical values ( revised ).

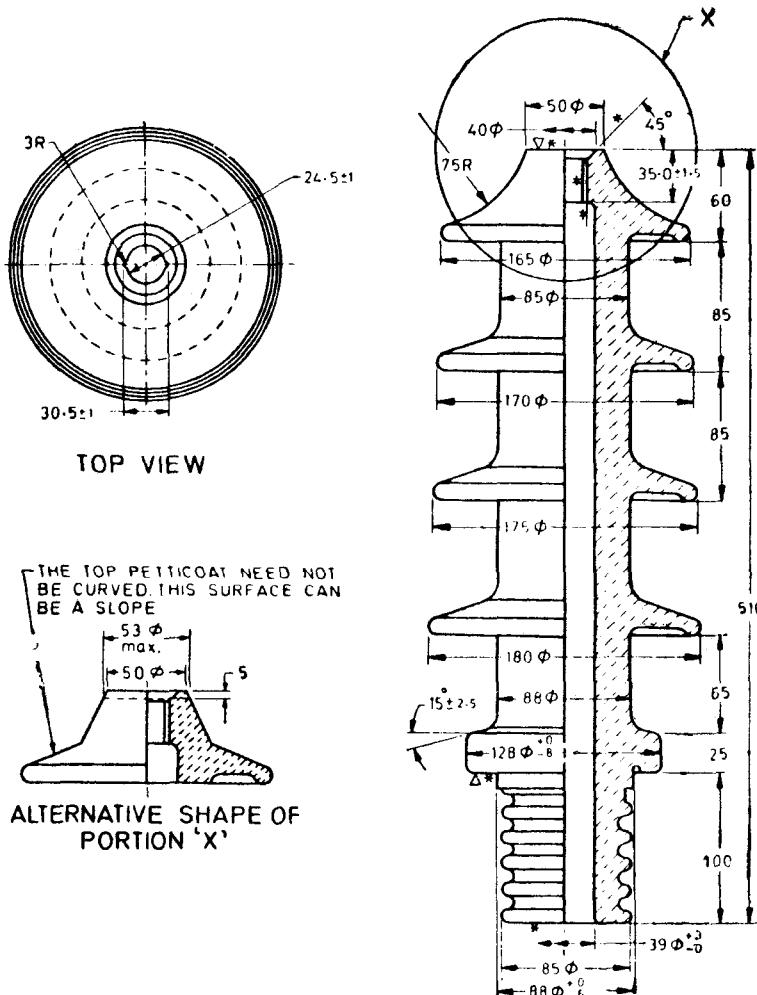


All dimensions in millimetres.

△ Surfaces perpendicular to axis.

\* Unglazed.

FIG. 1 PORCELAIN PART FOR 36/250 kV/A BUSHING

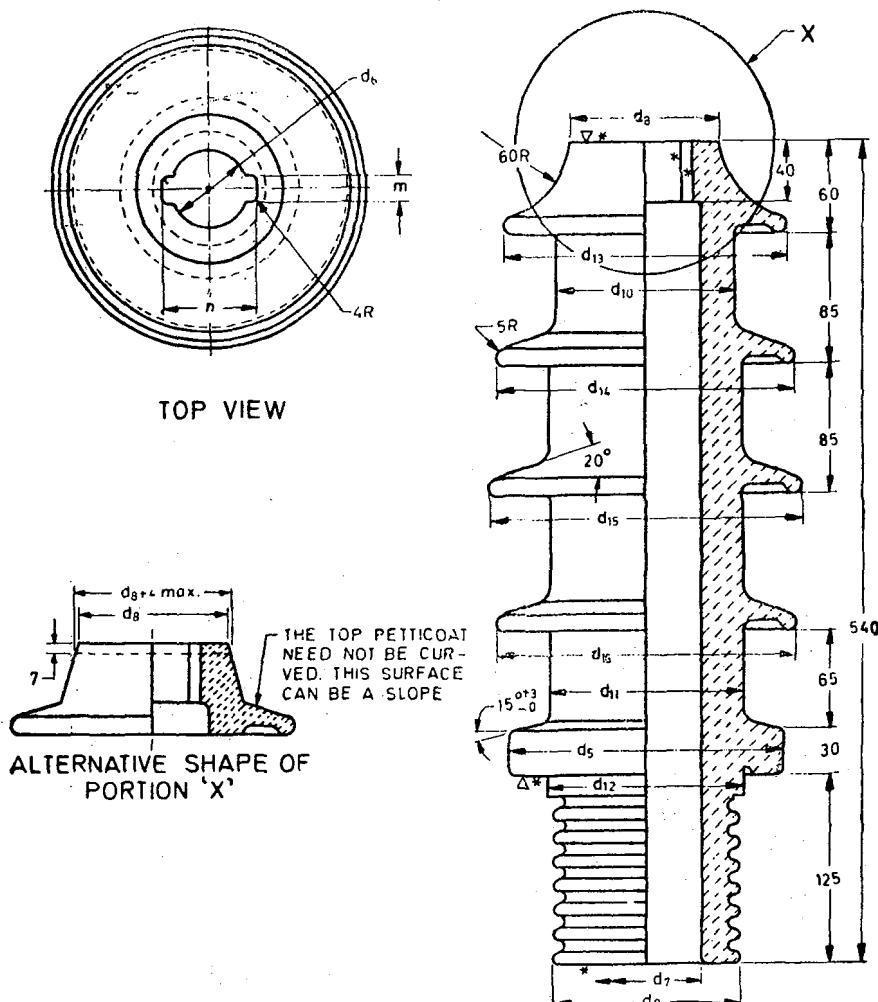


All dimensions in millimetres.

△ Surfaces perpendicular to axis.

\* Unglazed.

FIG. 2 PORCELAIN PART 36/630 kV/A BUSHING



Rating kV/A	$d_5$	$d_6$	$d_7$	$d_8$	$d_9$	$d_{10}$	$d_{11}$	$d_{12}$	$d_{13}$	$d_{14}$	$d_{15}$	$d_{16}$	$m$	$+0.5$	$n$	$+2$
36/1 000	$163^{+0}_{-10}$	32	$58^{+4}_{-0}$	80	100	105	110	$108^{+0}_{-7}$	185	190	195	200	12	46		
36/2 000, 3 150	$183^{+0}_{-12}$	51	$74^{+5}_{-0}$	100	125	120	130	$131^{+0}_{-8}$	215	220	225	230	17	62		

All dimensions in millimetres.

△ Surfaces perpendicular to axis.

\* Unglazed.

FIG. 3 PORCELAIN PART FOR 36/1 000, 2 000 AND 3 150 kV/A BUSHINGS

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